Title: Flywheel Timing Generation Method And Apparatus For TDMA Satellite Communications System Inventor: Junghoon Lee et al Filed: March 20; 2001 Page \_\_\_\_\_ of 8

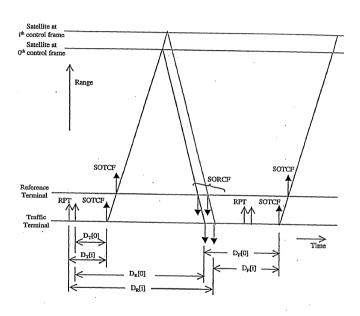
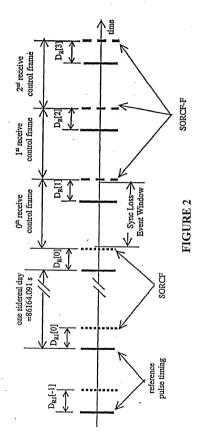
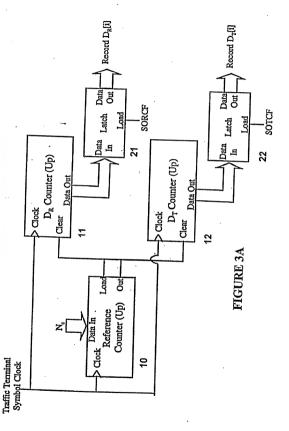


FIGURE 1

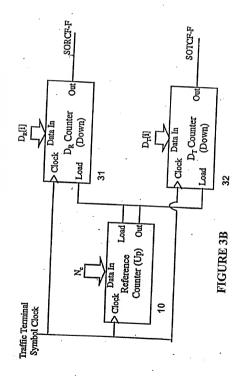
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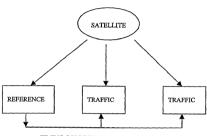


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# FIGURE 4



TIMING CORRECTION

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## FIGURE 5A

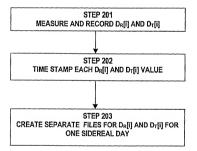
### INITIALIZATION

STEP 101

PLACEMENT OF REFERENCE PULSE SO THAT  $D_R[i]$ AND  $D_T[i]$  DO NOT EXCEED THE NUMBER OF SYMBOLS IN ONE CONTROL FRAME

# FIGURE 5B

### NORMAL OPERATION



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### FIGURE 6

#### **STEP 301**

READ MEASURED SORCF DELAY VALUE D<sub>R</sub>[0] OBTAINED JUST PRIOR TO TIMING LOSS

# STEP 302

FROM THE POSITION OF D<sub>R</sub>[0], DESIGNATE PREVIOUS AND SUBSEQUENT FLYWHEEL VALUES IN EVERY CONTROL FRAME INTERVAL

## STEP 303

DESIGNATE A MEASURED SORCF VALUE OBTAINED ONE SIDEREAL DAY PRIOR TO THE INSTANT OF THE DRIO1 VALUE AS DRIO1

## STEP 304

DESIGNATE A SORCF DELAY VALUE OBTAINED JUST PRIOR TO THE TIMING LOSS AS D<sub>1</sub>[0]

#### STEP 305

DESIGNATE A MEASURED VALUE OBTAINED ONE SIDEREAL DAY PRIOR TO THE INSTANT OF D<sub>1</sub>[0] AS D<sub>1</sub>[0]

# STEP 306

DESIGNATE PREVIOUS AND/OR SUBSEQUENT FLYWHEEL VALUES IN EVERY CONTROL FRAME INTERVAL FOR EACH OF  $D_{R1}[0]$ ,  $D_{T1}[0]$ ,  $D_{T2}[0]$ 

#### STEP 307

USING THE RECORDED MEASURED VALUES  $D_R[i]$  AND  $D_{R1}[i]$ , CALCULATE THE FLYWHEEL VALUES  $D_R[i]$ 

#### STEP 308

USING THE RECORDED MEASURED VALUES  $D_{T}[i]$  AND  $D_{T1}[i]$ , CALCULATE THE FLYWHEEL VALUES  $D_{T}[i]$ 

# STEP 309

FROM THE OBTAINED VALUE FOR  $D_R[i]$  GENERATE THE START OF THE ITH SORCF-F BY COUNTING  $D_R[i]$  SYMBOLS FROM THE ITH REFERENCE PULSE

#### **STEP 310**

FROM THE OBTAINED VALUE FOR  $D_T[i]$  GENERATE THE START OF THE ITH SOTCF-F BY COUNTING  $D_T[i]$  SYMBOLS FROM THE ITH REFERENCE PULSE

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# FIGURE 7

